

***Appendix J – Suitability and Capability Criteria for Rating and Ranking
Parcels***

**VISUAL RESOURCES
SCENIC VALUE CRITERIA
FOR SCENERY INVENTORY AND MANAGEMENT**

The criteria for classifying the quality and value of scenery has been adapted from a scenic management system developed by the U.S. Forest Service and integrated with current planning methods used by the Tennessee Valley Authority. The classification process is based on methodology and descriptions taken from Landscape Aesthetics, A Handbook for Scenery Management, Agriculture Handbook Number 701, U.S. Forest Service, U.S.D.A. 1995.

Scenic Attractiveness - 3 levels

Attractiveness is a measure of scenic quality based on human perceptions of intrinsic beauty as expressed in the forms, colors, textures, and visual composition of each landscape. The combination of rock outcrops, water bodies, landforms, vegetation patterns, and other natural features that shape landscape character also help define scenic importance. The presence or absence of these features, along with valued attributes such as variety, uniqueness, mystery, pattern, order, vividness, harmony, and balance are used to classify the scenic attractiveness of a landscape.

Category 1: Distinctive - Areas where the variety of land forms, rock, vegetation patterns, water, and other features have outstanding or unique visual quality. These areas have strong, positive attributes that are relatively uncommon in the characteristic landscape. This category also includes areas in visually strategic locations that have somewhat more common attributes.

Category 2: Common - Areas where the land forms, rock, vegetation patterns, water, and other features have ordinary or common visual quality. These areas have generally positive but typical attributes, with a basic variety of forms, colors, and textures that are normally seen throughout the characteristic landscape.

Category 3: Minimal - Areas where the natural features have little change in form, line, color or texture resulting in low visual quality. Rock forms and vegetation patterns of any consequence are often not present, and these areas generally have weak or missing attributes. All areas not classified as 1 or 2 are included in this category.

Scenic Integrity - 4 levels

Integrity is a measure of scenic importance based on the degree of visual unity and wholeness of the natural landscape character. Human alteration can sometimes raise integrity, such as an impounded water body that unifies the landscape while adding variety, mystery, harmony, and balance. Most often scenic integrity is lowered by

human alteration and the addition of visually disruptive elements. The presence and degree of discordant alteration is used to classify the scenic integrity of a landscape.

High: Areas where the valued landscape character appears to be intact and unaltered, with very minor deviation. Any deviation present must repeat the form, line, color, texture and pattern of the landscape so closely and at such a scale that they are not evident.

Moderate: Areas where the valued landscape character appears to be slightly altered. Noticeable deviations must be visually subordinate to the landscape being viewed, and borrow much of it's form, line, color, texture and pattern.

Low: Areas where the valued landscape character appears to be modestly altered. Deviations begin to dominate the landscape being viewed, but the alterations should share natural color, shape, edge pattern, and vegetation characteristics in order to remain compatible or complimentary.

Very Low: Areas where the valued landscape character appears to be heavily altered. Deviations may strongly dominate the landscape and may not share any of the visual attributes. The alterations may be visually disruptive and provide significant negative contrast to the natural landscape characteristics.

Scenic Visibility - 2 parts, 3 levels each

Landscape visibility is a measure of scenic importance based on several essential interrelated considerations: viewer context and sensitivity, number of viewers, frequency and duration of view, level of detail seen, and seasonal variation. A large number of highly concerned viewers who view the landscape for a long time period may raise the scenic importance significantly. The importance may be much lower when only a few viewers with low concern see the landscape for a brief period. These considerations are combined in two parts which are used to classify the scenic visibility of a landscape.

Sensitivity : The level of scenic importance based on expressed human concern for the scenic quality of land areas viewed. Sensitivity may be derived/confirmed by resident and visitor surveys.

Level 1: Areas seen from the reservoir, lake shore residents, and lake view residents, where the number of viewers and concern for scenic quality is normally high.

Level 2: Areas seen from principle roadways, use areas, and other public viewing areas. Concern for scenic quality is generally high while number of viewers, view frequency and duration is moderate.

Level 3: Areas seen from secondary travel routes, use areas, and any not included in the other levels. Concern may be high in some areas, but number of viewers is generally low.

View Distance: A principal indicator of scenic importance based on the distance an area can be seen by observers, and the degree of visible detail within that zone.

Foreground: From 0 feet to ½ mile. A distance zone where the individual details of specific objects are important and easily distinguished. Details are most significant within the immediate foreground, 0 - 300 feet.

Middleground: From ½ mile to 4 miles. The zone where most object characteristics are distinguishable, but their details are weak and they tend to merge into larger patterns. When landscapes are viewed in this zone they are seen in broader context. Human alteration may contrast strongly with the larger patterns and make some middleground landscapes more sensitive than the foreground.

Background: From 4 miles to the horizon. The distant landscape, where objects are not normally discernible unless they are especially large and standing alone. Details are generally not visible and colors are lighter. Few lands in the study area are viewed in this zone.

Scenic Value Class - 4 levels

The value class of a landscape is determined by combining the levels of scenic attractiveness, scenic integrity and visibility. The table below shows the various combinations and the resulting scenic class. It is a general guide, and is intended to complement a thorough field analysis. These classes are used to compare the value of scenery to other resource values during inventory and planning processes. They may also be useful to guide management objectives for improving or maintaining the scenic quality of managed lands.

Excellent: Areas with outstanding natural features that appear unaltered. Very minor deviations may be present but are generally unnoticeable even in the foreground. These areas are highly visible in the foreground and middleground from both land and water. Unaltered areas that may be less outstanding but are in a visually strategic location also have excellent scenic value.

Good: Areas with attractive but common scenic quality and no distinctive natural features. Minor human alteration may be seen in the foreground but is barely noticeable in the middleground. These areas have relatively high visibility from both land and water.

Fair: Areas of common or minimal scenic quality with little or no interesting features. Moderate human alteration is seen in the foreground but is less distinct in the middleground due to compatible form and color. These areas have relatively high visibility from both land and water.

Poor: Areas that have very little scenic importance and/or visually significant disturbances resulting from human activity. The alterations provide discordant contrast in the natural landscape due to incompatible size, shape, color, and material. The areas are clearly visible in the foreground and middleground, and have relatively high visibility from both land and water.

Scenic Value Class Selection Table													
Visibility Levels: Sensitivity View Distance		1 foreground			1 midground			2 foreground			2 midground		
Scenic Attractiveness Categories		1	2	3	1	2	3	1	2	3	1	2	3
Scenic Integrity Levels	High	E	G	F	E	E	G	E	G	F	E	E	G
	Moderate	G	G	F	E	G	F	G	G	F	E	G	F
	Low	F	F	P	F	F	P	F	F	P	F	F	P
	Very low	P	P	P	F	P	P	P	P	P	F	P	P
		Scenic Value Class: E = Excellent; G = Good; F = Fair; P = Poor											

Visual Absorption Capacity

Absorption capacity indicates the relative ability of a landscape to accept human alteration with the least loss of landscape character and scenic value. These indicators are useful to help predict potential difficulty or success with proposed development and scenic management. They are based on characteristics of the physical factors found in a landscape. Each characteristic has a capacity range from less to more, and the primary ones are shown in the list below. Visual absorption is also affected by the variety of landscape patterns, and the amount of screening provided by landforms, rock, water bodies, and vegetation.

<u>Factor Change</u>	<u>Least Capacity to Absorb Change</u>	<u>Greatest Capacity to Absorb Change</u>
Slope	Steep Unstable geology	Level Stable geology
Vegetation	Sparse cover Low cover, grasses and shrubs Few species, little or no pattern	Dense cover Tall cover, trees Multiple species, diverse pattern
Landforms dissected	Simple shape	Diverse shapes, heavily
Soils	Easily eroded Poor, slow revegetation	Erosion resistant Rich, fast revegetation
Shoreline features	Simple line, little or no interruption	multiple interruptions, diverse
Color colors	Narrow range of indigenous colors	Broad range of indigenous

Desired Landscape Character

Scenic attractiveness and the existing level of scenic integrity serve as the foundation for selecting the preferred landscape character. Lake adjacency and ecosystem trends should be considered along with the historic visual character to help any changes be more complete, attractive, and sustainable. Several types of landscape character with long range objectives for scenic integrity are described below.

Natural Evolving landscape character expressing the natural change in ecological features and processes with very limited human intervention.

Natural Appearing landscape character that expresses predominantly natural qualities but includes minor human interaction along with cultural features and processes that are relatively unobtrusive.

Pastoral landscape character expressing dominant human developed pasture, range, and meadow, along with associated structures, reflecting historic land uses, values, and lifestyles.

Rural landscape character that expresses sparse but dominant human residential and recreational development, along with associated structures and roadways that reflect current lifestyles.

Urban landscape character expressing concentrations of human activity in the form of commercial, residential, cultural, and transportation, facilities, along with supporting infrastructure.

Visual Management Objectives

Based on the scenic value class, management objectives may be developed to accomplish or maintain the visual character desired for each area.

Preservation:

Areas classified Excellent, and managed for a natural evolving landscape character. Only very low impact recreational and scientific activities are allowed, and no facilities are permitted.

Retention:

Areas classified Good, and managed for a natural appearing landscape character. Permitted activity or minor development should repeat the natural form, line, color, and texture of the area and remain visually subordinate to the surrounding landscape. Changes in the size, intensity, direction and pattern of activity should be unobtrusive and not readily evident.

Modification:

Areas classified Good or Fair, and managed for pastoral or rural landscape character. Permitted activity and development may dominate the original character but should remain visually compatible with the remaining natural landscape. Vegetation and landform alterations should repeat the natural edges, forms, color, and texture of the surrounding area. The scale and character of structures, roads, and other features should borrow naturally established forms, lines, lines, colors and patterns to provide the greatest possible visual harmony.

Maximum Modification:

Areas classified Fair or Poor, and managed for urban landscape character. Permitted activity and development generally dominates the original visual character. Vegetation and landform alterations should remain visually harmonious with the adjacent landscape. When seen In the foreground and middleground, they may not fully borrow the surrounding natural forms, lines, colors and textures. Likewise, development features seen from the same distances may be out of scale and have significant details that are discordant with the natural landscape character. Overall development should be directed toward achieving the greatest possible visual harmony.

Enhancement:

Any area classified less than Excellent, with a relatively short term management objective intended to restore and/or improve the desired scenic quality. Rehabilitation activities may include alteration, concealment, or removal of obtrusive and discordant elements. Enhancement activities may include addition or modification of natural elements and man-made features to increase the variety and attractiveness of spaces, edges, forms, colors, textures, and patterns.

Navigation Capability/Suitability Criteria for Reservoir Land Management Planning

Barge Terminals (Mainstem). For barge terminals which transfer commodities between barges and trucks, trains, warehouses at public ports or industrial plants along the river. **Criteria:** deep water, obstruction to navigation, acreage, slope, elevation above the normal pool level, and flood.

Barge Terminals (Tributaries). For barge terminals along the banks of tributary rivers use a slightly different, less stringent set of criteria. **Criteria:** deep water, obstruction to navigation, acreage, slope, elevation above the normal pool level, and flood.

Minor Commercial Landings. For sites that can be used for transferring pulpwood, sand, gravel, and other natural resource commodities between barges and trucks on an intermittent basis. **Criteria:** deep water, acreage, slope, and elevation above the normal pool level.

Fleeting Areas. For designated places where barges are switched between commercial tows and/or barge terminals. **Criteria:** deep water, length of straight shoreline, distance to terminals or waterway junction, and obstruction to navigation

Criteria are given a percentage value based on the attributes of that criteria.

Navigation Rating Scale		
Rating	numeric value	percent value
excellent	1	>85%
good	2	70 - 84%
fair	3	55 - 69%
poor	4	<55%

Criteria for Industrial/Commercial Development Capability/Suitability

Zone 5 - Industrial Commercial Development										
Type Development	Land Base	Land Slope	Shape	Height Above Water	Flooding	Barge Accessibility	Miles To Major State or Federal Highway	Miles To Railroad	Availability Of Utilities	Industrial Road Access
Heavy Indust./Manufacture /Manufacture ≥250,000 s.f building footprint	H > 100 acres M 25 to 100 acres L < 25 acres	H 1 to 5 % M 5 to 10 % L > 10 %	H fairly rectangular M square L irregular	H < 20 feet M 20 to 40 feet L > 40 feet	H majority above structure profile M 50 percent above structure profile L majority below structure profile	H minor or no dredging required M some dredging required L major dredging required or no barge available	H < 2 M 2 to 5 L > 5	H < 1 M 1 to 2 L > 2	H all utilities available M some utilities available L no utilities available	H road to the site M road within ½ mile of site L road greater than ½ mile of site
Light Indust./Manufacture or Assembly 50,000 to 250,000 s.f building footprint	H > 25 acres M 10 - 25 acres L < 10 acres	H 1 to 5 % M 5 to 15 % L > 15 %	H fairly rectangular M square L irregular	NI	H majority above structure profile M 50 percent above structure profile L majority below structure profile	NI	H < 2 M 2 to 5 L > 5	NI	H all utilities available M some utilities available L no utilities available	H road to the site M road within ½ mile of site L road greater than ½ mile of site
Commercial or Office Park	H > 25 acres M 10 to 25 acres L < 10 acres	H 5 to 10% M 10 to 20% L > 20 %	H fairly rectangular M square L irregular	NI	H majority above structure profile M 50 percent above structure profile L majority below structure profile	NI	H < 2 M 2 to 5 L > 5	NI	H all utilities available M some utilities available L no utilities available	H road to the site M road within ½ mile of site L road greater than ½ mile of site
Industrial Access for commodity shipment	H > 10 acres M 5 to 10 acres L minimum of 5 acres	H 1 to 5 % M 5 to 10 % L > 10 %	H fairly rectangular M square L irregular	H < 20 feet M 20 to 40 feet L > 40 feet	H majority above structure profile M 50 percent above structure profile L majority below structure profile	H minor or no dredging required M some dredging required L major dredging required or no barge available	H < 2 M 2 to 5 L > 5	H < 1 M 1 to 2 L > 2	H all utilities available M some utilities available L no utilities available	H road to the site M road within ½ mile of site L road greater than ½ mile of site

Rating Categories: H= high; M= medium; L= low.
NI - Not Important
s.f. - square feet

Criteria for Natural Resource Capability/Suitability

Zone 4 - Natural Resource Conservation										
Zone 4	Rank	Size of Land Base	Overland Access	Ecological Diversity	Habitat Management	Cost Recovery	Compatibility of Adjacent Land Use	Multiple Use Potential	Intensity of Current Use	Natural Resources Partnership
Diversity of ecological communities, and/or a variety of successful stages	H	> 100 Acres. Not in Linear Strips	Existing Road Network	> 5 Ecological Communities Or Successional Stages	Easily Managed	High	Adjacent Land Use Would Have No Effect On Management Decisions	3 To 5 Potential Uses	N/A	N/A
	M	50 to 100 Acres. Not Linear in Strips	Overland Access Possible	3 To 5 Ecological Communities Or Successional Stages	Could Be Managed	Medium	Adjacent Land Use Could Preclude Some Management Options	1 To 3 Potential Uses	N/A	N/A
	L	< 50 Acres	Overland Access Unavailable	1 To 3 Ecological Communities Or Successional Stages	Difficult To Manage	Low	Adjacent Land Use Could Prevent Resource Management/Utilization	Single Use Potential	N/A	N/A
Customer uses are compatible with TVA's mission and goals	H	> 100 Acres. Not in Linear Strips	Existing Road Network	N/A	N/A	High	Adjacent Land Use Would Have No Effect On Management Decisions	3 To 5 Potential Uses	Year Round Use	N/A
	M	50 to 100 Acres. Not Linear in Strips	Overland Access Possible	N/A	N/A	Medium	Adjacent Land Use Could Preclude Some Management Options	1 To 3 Potential Uses	2 Or 3 Season Use	N/A
	L	< 50 Acres	Overland Access Unavailable	N/A	N/A	Low	Adjacent Land Use Could Prevent Resource Management/Utilization	Single Use Potential	< 2 Season Use	N/A
Potential for partnerships, cooperative management, agreements, licenses, leases or easements with others agencies or NGO's for natural resource management purposes	H	High Potential	Existing Road Network	N/A	Easily Managed	High	Adjacent Land Use Would Have No Effect On Management Decisions	3 To 5 Potential Uses	N/A	2 or More Potential Partners; Or 2 or More Partnerships In Place
	M	Moderate Potential	Overland Access Possible	N/A	Could Be Managed	Medium	Adjacent Land Use Could Preclude Some Management Decisions	1 To 3 Potential Uses	N/A	1 or 2 Potential Partners Or 1 or 2 Potential Partnerships In Place
	L	Low Potential	Overland Access Unavailable	N/A	Difficult To Manage	Low	Adjacent Land Use Could Prevent Resource Management/Utilization	Single Use Potential	N/A	No Potential for Partnerships; and No Partnerships in Place
Prior investments for natural resources management/enhancements	H	N/A	> \$5000	N/A	> 2 Prior Investors	High	N/A	N/A	N/A	2 Or More Partners have Invested
	M	N/A	\$0 to \$5000	N/A	1 To 2 Prior Investors	Medium	N/A	N/A	N/A	1 to 2 Partners have Invested
	L	N/A	No Prior Investment	N/A	No Prior Investors	Low	N/A	N/A	N/A	No Prior Investments

Definitions For Natural Resources Capability/Suitability Criteria

• **List of Primary Land Use/Ecological Community Types Used For Determining Level Of Diversity**

Managed Open Lands

- ◆ Cropland
- ◆ Pasture or Hay
- ◆ Orchards/Groves/Vineyards
- ◆ Maintained Early Successional (Includes Old Field, Scrub/Shrub)

Forest Lands*

- ◆ Deciduous Forest
- ◆ Evergreen (Coniferous) Forest
- ◆ Mixed (i.e., Deciduous/Evergreen) Forest

* Age/size class modifiers (i.e., seedling/sapling, pole, saw timber, and late successional) may be applied to better define stand development/condition

Wetland & Riparian Communities

- ◆ Forested Wetlands
- ◆ Scrub/Shrub Wetlands
- ◆ Emergent Wetlands
- ◆ Forested Riparian Zones

• **Multiple-Use Categories**

- ◆ Small Game Lands
- ◆ Big Game Lands
- ◆ Waterfowl Areas
- ◆ Song Bird Observation Areas
- ◆ Waterfowl Observation Areas
- ◆ Raptor Observation Areas
- ◆ Large Mammal Observation Areas
- ◆ Small Mammal Observation Areas
- ◆ Amphibian/Reptile Breeding/Observation Areas
- ◆ Forest Production Areas

• **Investment Types**

- ◆ Forestry Research Activities
- ◆ Wildlife Habitat Improvements
- ◆ Wildlife Research Activities
- ◆ Forest Management Investments/Activities
- ◆ Present/Future Resource Value (i.e., Net Worth)

• **Potential Partnership Groups**

- ◆ Educational Institutions
- ◆ Nongovernmental Organizations
- ◆ State Agencies
- ◆ Other Federal Agencies